

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning at **page 2, line 27**, and insert the following rewritten paragraph:

According to one aspect of the present invention to resolve the above problem, there is provided an external force control method for controlling an external force applied to an animal through an orthosis attached to the animal that makes a movement along with the activities of muscle fibers, the method comprising: a myoelectric potential measurement step of measuring a myoelectric potential x that occurs in the body of the animal; an external force setting step of setting a value of an external force f applied to the animal through the orthosis according to an external force ~~function $f(x)$~~ with function $f(x)$ with the myoelectric potential x as a variable on the basis of the measured value of the myoelectric potential x ; a motion variable measurement step of measuring a motion variable y varying with the motion of the animal under the condition of the external force applied through the orthosis; a factor setting step of setting a value of a factor γ according to a factor function $\gamma(f, y)$ with the external force f and the motion variable y as variables on the basis of the set value of the external force f and the measured value of the motion variable y ; a determination step of determining whether a deviation δ between the set value of the factor γ and target thereof value γ_t is less than a reference value ε ; and an external force function setting step of setting a new external force function $f(x)$ in such a way that the set value of the factor γ approaches the target value γ_t if the deviation δ is determined to be equal to or

greater than the reference value ε in the determination step.

Please replace the paragraph beginning at **page 12, line 4**, and insert the following rewritten paragraph:

According to another aspect of the present invention to resolve the above problem, there is provided an external force control system for controlling an external force applied to an animal through an orthosis attached to the animal that makes a movement along with the activities of muscle fibers, the system comprising: myoelectric potential measurement means for measuring a myoelectric potential x that occurs in the body of the animal; external force setting means for setting a value of an external force f applied to the animal through the orthosis according to an external force ~~function $f(x)$~~ with function $f(x)$ with the myoelectric potential x as a variable on the basis of the measured value of the myoelectric potential x measured by the myoelectric potential measurement means; motion variable measurement means for measuring a motion variable y varying with the motion of the animal under the condition of the external force applied through the orthosis; factor setting means for setting a value of a factor γ according to a factor function $\gamma(f, y)$ with the external force f and the motion variable y as variables on the basis of the set value of the external force f set by the external force setting means and the measured value of the motion variable y measured by the motion variable measurement means; determination means for determining whether a deviation δ between the set value of the factor γ set by the factor setting means and target value γ_t thereof is less than a reference value ε ; and external force function setting means for setting a new

external force function $f(x)$ in such a way that the set value of the factor γ approaches its target value γ_t if the deviation δ is determined to be equal to or greater than the reference value ε by the determination means.

Please replace the paragraph beginning at **page 13, line 17**, and insert the following rewritten paragraph:

According to still another aspect of the present invention to resolve the above problem, there is provided an external force control program for providing a computer with functions for controlling an external force applied to an animal through an orthosis attached to the animal that makes a movement along with the activities of muscle fibers, the program providing a computer with: a myoelectric potential measurement function of measuring a myoelectric potential x that occurs in the body of the animal; an external force setting function of setting a value of an external force f applied to the animal through the orthosis according to an external force function ~~$f(x)$~~ —with function $f(x)$ with the myoelectric potential x as a variable on the basis of the measured value of the myoelectric potential x ; a motion variable measurement function of measuring a motion variable y varying with the motion of the animal under the condition of the external force applied through the orthosis; a factor setting function of setting a value of a factor γ according to a factor function $\gamma(f, y)$ with the external force f and the motion variable y as variables on the basis of the set value of the external force f and the measured value of the motion variable y ; a determination function of determining whether a deviation δ between the set value of the factor γ and target value γ_t thereof is less than a reference value ε ; and an

external force function setting function of setting a new external force function $f(x)$ in such a way that the set value of the factor γ approaches its target value γ_t if the deviation δ is determined to be equal to or greater than the reference value ε by the determination function.

Please replace the paragraph beginning at **page 31, line 3**, and insert the following rewritten paragraph:

In still another embodiment of the present invention, it is possible to omit the chest gyro sensor 121, the anteroposterior chest acceleration sensor 122, the waist gyro sensor-~~103~~123, the anteroposterior waist acceleration sensor 124 and the vertical waist acceleration sensor 125. In addition, the external force control system 100 may include a motion state determination unit for determining the human motion state on the basis of the output from the hip joint angle sensor 126 and an output from the knee joint angle sensor 127, and the resultant force measurement unit 120 may read (measure) the resultant force F stored in the memory with being associated with the motion state determined by the motion state determination unit on the basis of the motion state.